stances regulate the digestive process and prevent the development of damage to the child's tissues and the supervention of acidosis, wasting or anemia.

A very interesting clinical fact which many mothers have discovered for themselves is that a child overfed with cow's milk fat may have its symptoms ameliorated by the feeding of still more fat, provided that fat be rich in olein, which we have already said readily dissolves fatty acids and soaps. Olive oil which mothers use so extensively to relieve the constipation of bottle fed babies, fulfills this chemical condition, and is therefore effectual. Cod liver oil, which contains an even greater proportion of olein, is of still more use, and this explains its value in restoring the anemic, constipated and somewhat rickety over fed child to full health. In the London clinics, where the patients are extremely poor, many babies are fed on condensed, skimmed milk, to which the doctor orders cod liver oil added, and these babies do exceedingly well. Malted milk, as a substitute for milk mixtures may be used with great success for a few days or a week in the treatment of patients whose digestion or metabolism has undergone any of the damages we have already referred to in this paper.

In conclusion, it is a very clearly illustrated fact and a fact capable of daily demonstration in this city, that a large proportion of the distress, discomfort and disease among nurslings, both breast and bottle-fed can be traced to fat in the food, either in excess or perverted.

A very wide diversity occurs in the clinical manifestations that follow the continued use of excessive or improper fat ranging all the way from trifling vomiting or mild intestinal disturbance to grave even fatal anemia, and nervous disturbance serious enough to cause collapse and convulsions and to so disastrous a condition of the skin as erythema desquamativa, and one feels that it is the duty of every one who deals extensively with the diseases of children to insist on the possible disasters that may follow the too common practice of overfeeding with fat, and to urge a more rational and reasonable method of substitute feeding and of dealing with nursing mothers.

Discussion:

Dr. Henry Gibbons, Jr. I would say that my experience with the care of infants has not been clinical so far as public clinics are concerned, but has been gained from private practice and hence I think it would be less full of variety and serious manifestations. With regard to the treating of atrophic children I may say that beside the question of food other things are quite as important and these are particularly fresh air, sunlight and warmth. I will add, however, that diluted food has often served me excellently. I have said a great many times that digestive disturbance has come from too concentrated foods, whether too concentrated from the presence of fat, or casein or sugar, even the sugar of milk. Very often a food that otherwise is not considered sufficiently nourishing has served a much better purpose than food of the standard proportions, and again and again I have found that patients or children who were peevish and fretful and without appetite indoors, and sleepless, when taken into the sunlight quickly became restful and even sleepy and took food with relish and with capacity to digest it. This is a very common observation, as often have we observed the benefit of warmth with premature children. I believe I can entirely coincide with Dr. Brown in her conclusions. I have not been able to secure much advantage from the common methods, so-called, of preventing sore nipples. I do not believe that there is much advantage in them, I believe that sore nipples come from forcible nursing or suction by a vigorous child of the nipple of a breast that does not contain much milk. Again and again I have seen blisters drawn on the tip of the nipple by forcible nursing and then have seen the integument of this blister fall, leaving an excoriated or raw surface, which if not treated properly, soon becomes an ulcer and may become infected. For a good many years I have used Dr. W—— nipple shield as a protector during the intervals of nursing. I am satisfied that whenever the milk is of suitable character, even though insufficient in quantity, it is proper that the nursing should be continued. I agree with Dr. Brown in this regard. The milk is sometimes manifestly poor or deficient in certain constituents and when very low in fat may be entirely unsuitable to the child and incapable of nourishing it properly. At the same time we know that some mothers have milk with only 1% of fat and the child does pretty well. Unless the mother's milk manifestly disagrees I would not have the child cease the nursing. I have no objection to mixed milks or mixed cow's milk providing it agrees. With regard to the statements made by Dr. Porter in respect to the influence of fat, it seems to me that he accords it a very large part in the production of the complaints of childhood,—rather more perhaps than is warranted, or at first sight is warranted. I have not seen cases in which I could trace various evils to a large preponderance of fat. I have, of course, used an increase of fat sometimes in cases of constipation with advantage as advised by authorities and I have seen the disturbances which arise from very fatty milk. I am much more inclined to dilute milk than to strengthen it. I find very often that the milk that will disagree with a child because it is a little too rich, although it is of normal proportions, will not disagree if water is added. We know that a little water given to a child prior to nursing is often corrective. The tendency is to think if diluted it is not sufficiently nourishing. I remember physicians in this city who gave very young infants full milk and claimed that this was the only proper way to feed infants. I have never experimented in that direction because it seemed to me unscientific. Necessarily, since Dr. Porter was treating of the evil influences of fat, he would have little to say of the influence of casein. The preponderance of casein in cow's milk and its coarser character make it in my estimation, much the more important element to deal with in the modification of cow's milk for infant use.

"ARTHRITIS DEFORMANS." *

By L. D. MEAD, M. D., San Francisco.

While this case is primarily one of gonorrhoeal arthritis the patient has developed an interesting secondary condition of arthritis deformans which is well shown in the hands. He is thirty-eight years of age, a boilermaker's helper by occupation. In January, 1908, he acquired an acute gonorrhoeal urithritis which was supposed to have been cured in two weeks. One week after its disappearance the patient began to have signs of an acute inflammation in the left ankle, later in the right ankle and finally in the small joint of the right hand. He was admitted to the City and County Hospital, Surgical Division, and for several weeks subjected to the

* Read before the Polyclinic Gathering, April, 1909.

Bier's hyperæmic treatment with some improvement. He was discharged, but found himself unable to work on account of the severity of the arthritic symptoms and in December, 1908, was readmitted to the hospital. Both hands were badly crippled as well as both knees, ankles and right sterno-clavicular articulation. The patient was placed in bed upon urinary antiseptics and ichthyol ointment applied locally to the joints. Despite these measures he grew gradually worse and became markedly anæmic. After six weeks of such treatment Dr. Schmoll called attention to a peculiar deformity of the hands, that is, the characteristic appearance of arthritis deformans, with marked atrophy of the interosseous spaces, ulnar deflection of the fingers and thickening of the periarticular tissues. Having obtained good results in such conditions by the internal administration of arsenic in increasing doses he put the patient on that treatment with the most gratifying results. He gained rapidly in flesh and strength, his color improved and he was soon able to be up and around with fairly good functional results in all the affected joints, the hands showing the greatest improvement.

Dr. Freytag has made X-Ray plates of the patient's hands which show plainly the pathological lesions of arthritis deformans. Here we find in the phalanges and metacarpal bones, examples of the atrophic form of this disorder with rarefaction of the osseous tissue and in two or three places the actual formation of holes in the shafts of the bones. We also see about the articular cartilages certain evidence of the hypertrophic form of the disease. My object in presenting this case is twofold: First, as an example of arthritis deformans of the infections type due to the action of the gonoccus and its toxines in contra-distinction to the more common and more chronic form of the disease; secondly, to demonstrate the valuable therapeutic action of large doses of arsenic in this condition.

Dr. James T. Watkins, discussing: We are to be congratulated upon being permitted to examine Dr. Mead's case because it presents characteristics of each of the three types on non-specific joint lesions. Similar cases have been reported by several observers. When we think of these three, the hypertrophic, the atrophic, and the infectious type, we recall certain characteristics of each. The hypertrophic type is characterized by bony outgrowths of the periphery of articular cartilage. It occurs oftenest in men past middle age. The process is insidious and begins in the phalanges of the fingers but does not cause trouble until some large joint is involved. The joints most likely to be involved are those subject to occupational traumatisms, for example, in miners and coalheavers the joints of the hips and of the lower spine are most often affected. Arbuthnot Lane called this condition occuring in the last lumbar vertebra a spondylolisthisis. But in certain specimens of spondylolithisis studied in the Harvard Museum a true division into parts of the vertebra had occurred in such a way that the superior articular processes had remained united with the body while the spinous process, the laminæ and the inferior articular processes had separated in one piece from the others. The condition described by Arbuthnot Lane seemed to me to be much more in the nature of a rerefying astitis. I asked Dr. Zobel to moke a proctoscopic examination upon several of these cases and in each instance he was able to report evidences of some stoppage of the eliminative function. This was usually indicated by a blocking of the bowel through fecal accumulation. The atrophic type occurs oftenest in young women, and seems to follow upon too frequent pregnancies, excessive household cares and occasionally upon emotional outbursts of grief or fear. It, too, begins insidiously. Its points of selection are the second and third phalangeal rows, later it involves the wrists, knees, ankles, elbows and shoulders in about the order given. Pain is not a prominent symptom until erosions of the articular cartilage bone set in, but joint stiffness is complained of. Pathognomonic are first—the X-Ray plates, which give the faint shadows of the atrophic bones early in the disease with later the too close approximation of the two ends of the bones forming a joint,—and the spindle shaped swellings of the periarticular tissues caused by a round cell infiltration of the synovia. There is an obliterating endarteritis and while the disease process is active an excessive excretion of calcium salts. The infectious type of the disease begins acutely and follows an infection which may be local oi remote. For example the primary focus may be in the middle ear, the tonsil, the teeth or the genito-urinary tract. The nature and severity of the attack will depend upon the character of the infective organism, but in general, and distinguishing this group from the first two, you will find an acute invasion, a rise of temperature, a rapid pulse, a leucocytosis and localized pain, tenderness, heat and swelling. Turning now to Dr. Mead's case we note that it began as a gonorrhoeal, that is an infectious, involvement, but that now our X-Ray shows distinct evidences of an atrophic process, while at the same time we note the presence of the bony outgrowths peculiar to the hypertrophic type. The clinical necessity for recognizing the three groups of non-tubercular joint disease is apparent when we take up the subject of their treatment. With the infectious type we proceed, whenever possible, against the primary focus, either surgically or by vaccines or specific remedies. The joint itself we protect and in addition thereto sweat it with the hot-air oven, or the rubber dam. Bier's passive congestion method is often of service. Occasionally it is necessary to open and wash out the joint. With regard to the therapy of the other two conditions I cannot speak with the same fidelity. For the past two and a half years I have been studying these conditions and dissimilar as are the clinical appearances the most successful therapy which has been instituted for the one condition has proved most efficacious in the treatment of the other. This would lead one to think that they might be different manifestations of an identical cause. Allow me just a moment more to illustrate this treatment. In every case of hypertrophic arthritis seen thus far where it was possible to obtain a proctoscopic examination the bowel was found to be

loaded with feces. Only after repeated flushings with saline solution and occasionally with warm oil was it possible to remove these accumulations which proved peculiarly offensive. Examination has proved this matter to contain excessive amounts of nidol and the aromatics, evidences of albuminous putrefaction being regularly present. Besides supplying the patient with appropriate protective apparatus the effort was made in these cases to obtain an aseptic intestine by means of calomel and saline flushings and to maintain it by cutting out the albumins as much as possible and by prescribing large quantities of a lactic acid preparation of milk. Under this line of treatment the results have been as gratifying as they were before discouraging. Dr. John Gallwey was on one of these cases with me. Observing the immediate and progressive improvement obtained he employed the same treatment in the case of a young woman who was suffering from a severe and advanced atrophic arthritis. This patient was unable to move almost any of the joints without suffering exquisite pain, extensive luxations and sublaxations were already present. At once she began to improve and when I saw her three weeks later she was able to walk up and down the block. I shall ask your indulgence at no late date while I take up at greater length this vitally important subject of autointoxication.

Doctor Chas. G. Levison, discussing: It might be of interest to mention the treatment of infected joints and gnorrhoeal arthritis advocated by Murphy. Murphy's results are equal to those obtained by the vaccines. His method is as follows: an infected joint which is always associated with temperature, is aspirated and a mixture of 2% formalin and glycerin is injected into the articulation. In one case that I saw treated the temperature dropped from 104 to 99 within 24 hours, and the condition went on to complete recovery. I saw several of these joints treated by Murphy in the same way and the result impressed me as being very remarkable. Formalin has been used before but Murphy maintains that his mixture must be made at least 24 hours before it is employed, otherwise the particles of formalin are not thoroughly mixed with the glycerin and these produce a tissue necrosis.

Paper, "Brief Convalescence After Operation for Chronic Appendicitis," Doctor Chas. G. Levison: The patient that I was to have presented this evening did not find it possible to get here. I wished to demonstrate him for two reasons, the first being on account of the time in which he was permitted to get out of bed following an operation for appendicitis. It was a case of recurrent appendicitis and the operation was performed in the usual way with the gridiron incision; the peritoneum and muscles were united with continuous chromic catgut sature and the skin was brought together by a fine subcuticular sature of plain catgut. The first forty-eight hours following the operation were without incident and after this he was allowed to get out of bed, since which time he has been up and around. There is nothing remarkable about getting the patient out of bed after forty-eight hours because this procedure has been advocated for a number of years by men, including Ries and Boldt, who have permitted their patients to get out of bed after the first twenty-four hours. These gentlemen believe that these patients get along better and that altogether it is the correct procedure to be carried out; this belief is rapidly gaining ground. The second reason for presenting the patient is in my opinion of greater importance; the patient was suffering from backache for a long time and he has experienced most of his pain in his right loin. As the pain was confined to his kidney region the question of stone in the ureter and kidney had to be carefully considered. It was with difficulty that I was able to exclude stone, but the urine was examined and found to be normal. There was also considerable tenderness in the right lower quadrant and rectal examination revealed tenderness high up in the pelvis. The diagnosis of appendicitis was finally established. The patient was suffering from digestive disturbance, which was present more or less continually. Pain referred to the kidney region has been most unusual in my experience in appendicitis. At the operation when the appendix was removed, the meso appendix was contracted and distorted and the appendix was sclerosed with an obliteration of its lumen, all of which was quite enough to cause the man's symptoms, which have been quite relieved since the operation. Strange to say, three days after I had operated upon this patient, another man was referred to me and the character of his pain and its position was about what has just been described, but the second patient had considerably more pain than the first and there was marked hyperesthesia, which extended across the loin toward the left side. Deep pressure caused the man marked pain, but the entire behavior of the man was strongly suggestive of the hyperesthesia of hysteria. The man had marked rigidly in his right side in the appendix region and there was dulness over this area. This patient also suffered from marked digestive disturbance. Diagnosis of chronic appendicitis was made and at the operation a large appendix, bulbous at its tip which was buried in adhesions containing a considerable quantity of encysted fluid, was found. Considerable difficulty was experienced delivering the appendix on account of the adhesions. Both of these patients have been relieved of their symptoms, including the backache. I operated this morning on another case which is interesting as far as the diagnosis is concerned. The patient was a woman upon whom I had operated ten years before for a cystic tumor of the ovary. She made a perfect recovery and I have not seen her during all this time until three or four weeks ago, when she presented herself suffering from abdominal pain. She gave a history of severe abdominal pain which did not have any relation to her meals or food and there was no history of jaundice or digestive disturbance; hyperacidity was not present. There was no occult blood in the stools, jaundice had never been present. Her pain, which was of a gnawing character, was most marked at

night and was growing worse. The examination revealed marked tenderness at the situation of the gallbladder, which was the only tender point present. When pressure was made over the region of the gallbladder at the end of a deep inspiration it made the patient shriek with pain and brought the tears to her eyes. The diagnosis of gallstones was made, having duodenal ulcer in mind, however. When the abdomen was opened a normal gallbladder was revealed and upon further examination it was seen that the patient was suffering from a duodenal ulcer, which was situated on the posterior surface of the duodenum. The ulcer was bound down by adhesions. There was no question but that the woman's pain was caused by duodenal ulcer. I performed a posterior gastro-enterostomy and buried the ulcer with a purse string sature and practically obliterated the pylorus. I mention this case because of the difficulties associated with the diagnosis of duodenal ulcer. There are many cases of duodenal ulcer that are overlooked because they are not accompanied by classic signs and we have much to learn as far as they are concerned. I can recall the case of a New York banker who recently died. He had consulted every medical man of importance in the East and Europe. He expired suddenly and at the autopsy it was found he had died from a hemorrhage proceeding from a duodenal ulcer.

Doctor H. A. L. Ryfkogel, discussing: I was interested in the remarks of Doctor Levison with regard to getting his patients up early after an operation. I have been for the last three years in the habit of forcing my laparotomy patients to get out of bed no later than the third day. I felt that getting them up the first day was perhaps too much, but by getting them out on the third day they have made more rapid convalescence than otherwise. Of course, I have been very particular about saturing of the wounds and also with regard to the type of dressing put upon the abdomen, particularly if the wounds are very long ones. If one puts a well patient to bed for a couple of weeks, at the end of that time the circulatory system is not in as good condition as when the patient was put to bed and certainly the same thing occurs in patients in whom we have made any kind of an operation. It is also true that the statistics have shown that thrombosis has been definitely less common in patients who have gotten up early after operations than those who have stayed in bed the classical three weeks. Another thing to be noticed in getting these patients up early is that you have very much less trouble with gaseous distension and constipation than with those patients who stay in bed longer. I have an appendix case now upon whom I operated yesterday morning who sat up in a chair this afternoon and will to-morrow walk. I instruct the nurse that the patients can do just as they wish with regard to getting up immediately. If they want to sit up, no matter what the position, I permit them to take that position and I find that the patients are much better for it.

PASSIVE MOTION.*

By S. J. HUNKIN, M. D., San Francisco.

During the last few months two patients have appeared at our office a few months subsequent to fractures around the elbow, with the elbow joint swollen, thickened, tender and practically ankylosed. The bones in each instance were in fairly good position and in my opinion the more or less ruined condition of these joints was due to the so-called "passive motion." Each year we see at least a dozen joints, especially elbows and knees, damaged to a marked degree by this crude and dangerous practice. While it may be within the skill of a Bardenhawer to play and meddle with fractures in and around joints before the healing process is about completed, and while perhaps such measures may be advantageous in such hands, yet in my opinion in the practice of the ordinary man, the procedure is dangerous and is generally productive of nothing but harm. That accidents even are not rare is evidenced by the fact that within the past two years, I have seen a severe hemorrhage into the knee, two instances of refracture at the elbow, one supracondyloid and the other at the base of the olecranon, one refracture at the wrist, and one streptococcus infection after repeated anesthetization for passive motion, with resultant destruction of the joint and grave risk of amputation; these accidents being in direct consequence of meddlesome interference with the fracture during the process of repair. Times without number during this period have we seen patients in the extreme of terror, horrified, trembling (and not all of them children) in abject fear of the doctor handling the extremity, so terrible has been their experience, and so much has the joint been hurt, damaged and abused, in misguided attempts to forcibly increase the range of motion. Ofttimes they tell of repeated anesthetizations, so that this so-called passive motion may be carried out. Again and again have I been a witness to this procedure. The patient sits or crouches before the operator, who grasps the tender, injured, rebelling limb forcibly and again flexes and extends it. The suffering structures are torn and wrenched and torn again, until outraged nature cries, and shriek after shriek peals from the patient, who grovels on the floor in entreaty and protest. Such practice measures the crazed fear, the frenzied anchylophobia of the worried doctor, and this is a protest against the need of any such treatment.

The pain provoked stands in evidence against its value. We do not believe that pain is a requisite part of the treatment of any fracture after the reposition of the separated ends. Sometimes, alas, it is a concomitant of our lack of deftness of hand, of our slowness of wit, which prevents the securing of immobilization, so promptly, so easily and so certainly as desired, but always its production is deplored and certainly never to be provoked. Let me recur to some words of John Hilton. Speaking of the early man he says: "Pain was the prime agent. Under

* Read at the Thirty-Ninth Annual Meeting of the State Society, San Jose, April, 1909.